REMARKS

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 1-23 are pending in the application, with claims 1, 21, and 23 being the independent claims. Claims 1, 21, and 23 are amended. No new matter is entered.

Based on the following Remarks, Applicants respectfully request that the Examiner reconsider all outstanding rejections and that they be withdrawn.

Examiner Interview

Applicants thank the Examiner for the personal interview on April 8, 2005. Because the Examiner did not indicate that it was unnecessary for Applicants to provide a separate record of the substance of the interview, Applicants now provide such a statement.

During the interview, Applicants and the Examiner agreed that amending the term "subsurface" to "terrestrial subsurface", or similar, would distinguish from Johnson, which only discusses testing for smog in air. In a further telephonic interview, the Examiner agreed to enter such an amendment, and if a new search was required, and new art was found, to issue a new non-final Office Action.

Rejections under 35 U.S.C. § 102

In the Action on pages 2-4, claims 1-8, 10-13, 18 and 20 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,571,724 to Johnson (hereinafter "Johnson"). Applicants respectfully traverse the rejection.

Johnson fails to teach any of the elements of claim 1. Specifically, as amended, claim 1 recites a method for end to end environmental data acquisition and delivery comprising the steps of: *acquiring a first set of environmental subsurface data* in a first location via *direct reading sensors, wherein said environmental subsurface comprises an area beneath at least one of a surface of earth, or a surface of a body of water; geo-referencing* said data; *transmitting* said data *to a data analysis application server; analyzing said data to obtain information about said data;* and *using said information to select a next location.*

First, Johnson fails to teach acquiring environmental **subsurface** data, wherein said environmental subsurface comprises an area beneath at least one of a surface of earth, or a surface of a body of water. Instead, Johnson teaches determining an amount and concentration of **smog** in **air**. Johnson makes no reference to acquiring data from beneath the earth's surface. Therefore, Johnson fails to teach acquiring environmental subsurface data.

Second, Johnson fails to teach acquiring data via **direct reading sensors**. Instead, Johnson describes sampling, measuring chemical reactions when NO is injected into the air, and modeling chemical reactions. (See Johnson, col. 5, line 45 to col. 6, line 15). In contrast, the direct reading sensors of claim 1 may include, e.g., direct sensing technologies; optical sensors; chemical sensors; electromechanical sensors; membrane interface probe (MIP) sensors; advanced MIP sensors; laser induced fluorescence (LIF) sensors; ultraviolet induced fluorescence (UVF) sensors; polymer sensors; or haloprobe sensors. (See para. 0020). Therefore, Johnson fails to teach acquiring data via direct reading sensors.

Third, Johnson fails to teach **geo-referencing** data. Instead, Johnson only discusses generally locating a source of a chemical or smog in the air, without discussing a frame of reference or a coordinate system. (see, e.g., Johnson, col. 20, lines 65-67). There is **no** discussion of **geo-referencing** data. Therefore, Johnson fails to teach geo-referencing data.

Fourth, Johnson fails to teach **transmitting** data **to a data analysis application server**. The Action aligns the interactions of computer 122 and temperature sensor 123 of Johnson with transmission to a data analysis application server. This alignment is not correct. Computer 122 of Johnson performs a variety of **calculations** (see Johnson, col. 37 line 42 to col. 38, line 62), but is not a data analysis application server as described, for example, in paragraphs 0147-0148 of the present specification. Therefore, Johnson fails to teach transmitting data to a data analysis application server.

Fifth, Johnson fails to teach **analyzing environmental subsurface data** to obtain information about the data. Instead, Johnson discusses measuring and modeling the chemical formation of smog in air. (See Johnson, col. 5 line 45 to col. 6 line 13). The method embodiments of Johnson describe "**measuring**" chemical mixtures and "**determining**" coefficients or concentrations. (See Johnson, col. 8, line 48 to col. 12 line 54). In contrast, the analyzing step of

claim 1 may include, for example, "analyz[ing] and account[ing] for variations in pressure, flow rate, condition of detectors (can account for drift and can calibrate, e.g., using a tracer gas), depth of the probe (hydrostatic), and in the baseline noise due to the analytical/electrical system." (See para. 0094). Therefore, Johnson fails to teach analyzing environmental subsurface data to obtain information about the data.

Sixth, Johnson fails to teach **using said information to select a next location**. There is no discussion in Johnson about using information from analyzed data to select a next location for acquiring data. In contrast, the method in claim 1 uses the information obtained from the analysis of the environmental subsurface data from a first data set to determine where a subsequent data set should be acquired. See, e.g., the specification at paragraphs 0115-0116. Therefore, Johnson fails to teach using said information to select a next location.

Therefore, Johnson fails to teach the elements of claim 1, and Applicants respectfully request that the rejection be withdrawn and claim 1 allowed.

Further, claims 2-8, 10-13, 18 and 20 depend from claim 1 and are allowable as being dependent on an allowable claim. Applicants respectfully request that the rejection be withdrawn and the claims allowed.

Rejections under 35 U.S.C. § 103

In the Action on pages 4-5, claims 9, 14-17, and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Johnson in view of U.S. Patent No. 6,356,205 to Salvo (hereinafter "Salvo"). Applicants respectfully traverse the rejection.

Claims 9, 14-17, and 19 depend from claim 1, and are allowable as being dependent on an allowable claim, as discussed above. Further, the combination of Johnson and Salvo fails to overcome the deficiencies of Johnson.

Salvo does not teach **geo-referencing data**. Instead, Salvo teaches locating a fixed monitoring well with a GPS locator. The data obtained by a fixed sensor in the well is not specifically geo-referenced, especially in an altitude position.

Second, Salvo does not teach **using said information to select a next location**. Salvo does not discuss specifically how well sites are chosen, although Salvo suggests that wells are positioned

at sites needing remediation, or near drinking water wells. Salvo does not use information from data collected at a well to determine the placement of another well.

Therefore, because Salvo and Johnson, alone or in combination, fail to teach at least two elements of claim 1, claims 9, 14-17 and 19 are allowable as being dependent from an allowable claim. Applicants respectfully request that the rejection be withdrawn and the claims allowed.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is hereby invited to telephone the undersigned at the number provided.

Dated: May 5, 2005

Respectfully submitted,

By

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